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Simultaneous interpreters' gestures as a window on conceptual alignment

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Abstract

In this qualitative study we examine relationships between gestural alignment and conceptual alignment between speakers' source texts and simultaneous interpreters' target texts. We find that interpreters' gestures provide a window into their conceptualizations of source text elements, but also that gestural-conceptualization relationships are complex. We report on spoken-to-spoken language data, taken from a larger study, where interpreters interpreted from English to French, Spanish, Navajo, and Ukrainian. Each interpreter was video-recorded interpreting two English texts into their target language, followed by a video-recorded Stimulated Recall where they discussed whether their visualizations of the source text aided in how they understood the text. We find evidence of multi-level cognitive blends, where the interpreter's own subjective experiences blend with their assessment of the speaker's viewpoint, rather than the interpreter fully assuming the speaker's viewpoint. The data reveal instances of gestural alignment and corresponding conceptual alignment, gestural and conceptual non-alignment, and less-clear cases that suggest a complex relationship between gesturing and conceptualization. As a result, we propose a typology of gestural and conceptualization alignment/non-alignment in the interpreters' target texts.

Keywords

Conceptual alignment, gestural alignment, visualization, subjectivity, simultaneous interpreting

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1. Introduction

Simultaneous interpreters are primarily concerned with speakers' meaning, and conveying some sense of this meaning between the speaker and recipient, as is evident throughout the literature on interpretation and translation from various perspectives (see among many others Nida, 1964; Gerver, 1976; Seleskovitch, 1978; Gile, 1995; Hatim & Mason, 1990; Wadensjö, 1998; and Setton, 1999). From a cognitivist perspective, meaning resides in the mind, and because we have no direct access to another's mind, meaning must be constructed by the addressee based on available clues via what the speaker says, along with prosodic features of their discourse, their gestures, etc. (Croft, 2000; Linell, 2009; Reddy, 1993). Given that what the speaker says is comprised of words and constructions that are but representations of the meaning in their mind, the addressee is largely dependent on their own process of assembling a meaning, filtered through their own experiences both of how things "are" (i.e., encyclopedic knowledge) and of language and what words and constructions typically mean in contextualized settings (Croft, 2000).

This project sets out to explore one aspect of this enterprise, that is, the role that gesture plays in how the simultaneous interpreter interacts with the source text (Zagar Galvão, 2013), in two ways: 1) how the interpreter engages with a speaker's gestures as part of their delivery of a text, and 2) how the interpreter's own gestures reflect elements of their conceptualization of the text meaning, and how this may influence the resulting target text – the text that the interpreter delivers to the target audience. Taylor (2017) suggests that in the process of translation, the translator pictures a situation as the original writer depicts it, but then considers how this conceptualization can be best represented in the target language, given that the language resources for doing so may not allow for a depiction in the same way in the target as is the case for the source text. We were interested in whether the interpreters' conceptualization of source text elements aligned with source speakers' own conceptualizations of these elements, and hypothesize that the interpreters' own gestures offer a window on this alignment. To discover this, we analyzed the interpreters' enactment gestures (Ferrara & Johnston, 2014; Saunders & Parisot, 2023), often referred to as depicting (Liddell & Metzger, 1998), and their deictic gestures (see for example Kita, 2003).

1.1. The interpreter's inherent subjectivity

Despite the ideology of the interpreter striving toward unbiased objectivity, a cognitivist view asserts that speakers' participation in discourse is inherently subjective at every level, and interpreters are not exempt from their own inherently subjective approach to the discourse. Afterall, at even the basic level of linguistic expression, it is the interpreter's "words, her grammar, her intonation and prosody, and her set of experiential frames that she has been building, all of which conflate in her use of language that becomes the target text" (Janzen & Shaffer, 2013, p. 79). It is well understood that the interpreter filters incoming texts through their own experiential, subjective understanding of the world (Janzen & Shaffer, 2008; see also Boogaart & Reuneker, 2017; Linell, 2009), and this includes cognitive resources[1] and subjective conceptualizations of the world in constructing meaning. Critical is that such conceptualizations are subjectively viewpointed (Sweetser, 2023) and dynamic (Langacker, 2008).[2] This leads to

[1] Janzen (2005) frames linguistic form, text building strategies, and even text meaning (sense) as among the interpreter's resources in constructing a target text, highlighting the subjective nature of target text construction.

[2] Dynamicity, in Langacker's (2008) terms, suggests that conceptualizations are always subject to new information, and therefore subject to change; therefore "conceptualizations" as a term is preferred to "concepts", which implies something static, not reflective of actual discoursal cognition (e.g., Linell, 2009).

the potential of the interpreter's target text aligning conceptually with the source speaker or not. If the interpreter is inextricably bound by their own conceptualizations of the world as they see it and their subjective conceptualizations of the source text, is there any possibility of an objective representation of the source text at all? Nonetheless, interpreters are often under the impression that they are to represent and portray the viewpoint of the source speaker, and are expected to do so in an objective way (see, e.g., Tipton, 2008; Wadensjö, 1998; Wilcox & Shaffer, 2005 on interpreter neutrality; and Venuti, 1995 on translator invisibility). In a preliminary analysis of the data in this project, Leeson et al. (2017a, 2017b) and Janzen et al. (2022) find that interpreters form a blended viewpoint that is partly their own viewpoint on speaker meaning, and partly their subjective *belief* of what the speaker's viewpoint is. Critically, the understanding of subjective belief is a departure from the idea that an interpreter's rendition is an actual representation of the speaker's viewpoint.

Underlying the interpreter's blended viewpoint is that some sort of mental simulation is taking place, where the interpreter experiences mental re-enactments of sensory-motor states (Barsalou, 2003; Cienki, 2013) as described by the source speaker. In discourse studies, Bergen (2005, p. 262) describes this as "simulation semantics" wherein understanding what a speaker is saying entails "performing mental perceptual and motor simulations" of the text.

1.2. Situating gestures in simultaneous interpreting

Mental simulation as described above can involve body actions that are gestural in that they are communicative, intentionally or not, given that gestures may be intended as interactive so as to communicate something to an addressee or are reflexive in the sense that they appear to assist the speaker in conceptual processing or in word recall (Frick-Horbury, 2002; Kita et al. 2017; see also the review in Cooperrider & Goldin-Meadow, 2017). This would be the case for referential gestures that concern content within the discourse, and gestures that reflect an attitude toward the content or indicate to the recipient how they might understand content framing (Cienki, 2024). Pragmatic gestures in particular can reflect stance taking (Leonteva et al., 2023). Wu and Coulson (2007, p. 244) suggest that "iconic gestures activate image-specific information about the concepts which they denote", which could be the case both for the speaker/gesturer and the addressee. Sweetser (2023) makes the critical point that the meaning of a gesture must be considered within the context of a *viewpointed* gesture space, with the gesture not considered as an isolated action of a body part. The body, therefore, is fundamental to embodied cognition and the situated meaning of gestures. This suggests that gestures are fundamental to mental simulation and, we argue, following Wilcox and Shaffer (2005) and Janzen and Shaffer (2013), interpreters cannot avoid this deeply embodied aspect of interactive discourse.

2. Description of the visualization project

The current analysis is part of a larger study on simultaneous interpreting that investigates the extent that interpreters working into either spoken or signed languages visualize aspects of the source text, and how such visualizations inform the interpreter's construction of meaning and their decision-making processes in building their target text. In addition, given that an important characteristic of discourse is that it is multimodal (among many others, Enfield, 2009; Hagoort & Özyürek, 2024; Sweetser, 2023), we wanted to explore whether the interpreters were cognizant of the source speakers' gestures, and whether they considered these gestures as contributing to speaker meaning, therefore incorporating this information into their target text construction. We were also interested in the interpreters' own gestures as they interpreted, considering that they may reveal elements of conceptualizations not

apparent in the spoken or signed components[3] of the interpreters' utterances (Janzen et al., 2023). It is these gestural elements and how they align with conceptualization that concern this present analysis, focusing on the spoken-to-spoken language interpreters in the study. Olza (2024, this special issue) also examines gestural alignment in terms of gesture type between the simultaneous interpreter and source speaker, but her analysis does not focus on gestural-conceptual alignment.

Our participants are fourteen professional interpreters with a minimum of five years of experience in simultaneous interpreting, working between English and French, Spanish, Ukrainian, Navajo, American Sign Language (ASL), and Irish Sign Language (ISL). Each participant was asked to interpret two spoken English texts: an interview with the Canadian astronaut Chris Hadfield (approximately 15 minutes)[4] and a segment of a live performance of the Irish comedian Dara O'Briain (3.45 minutes)[5]. Data collection took place in Canada, the US, and Ireland, and followed university ethics guidelines in each country. Consent was given by all study participants for their images and video clips to be used in public presentations on the study, and in published reports. The participants were first given the opportunity to watch both source text videos, and then were video-recorded interpreting the two texts. Immediately following this, we recorded a Stimulated Recall (SR) (Bloom, 1954; Russell & Winston, 2000) where we reviewed, post-task, the interpretation while viewing both the source text video and the interpretation, as shown in Figure 1. SRs represent a methodology in interpreting research that affords researchers insights into interpreters' cognitive processing during their interpretations. Think Aloud Protocols (TAPS) on the other hand involve reporting concurrent with translation or other activities. See, for example, the studies in Tirkkonen-Condit and Jääskeläinen (2000), and Russell and Winston (2014) on SRs, also referred to as retrospective process tracing (Herring & Tiselius, 2020).

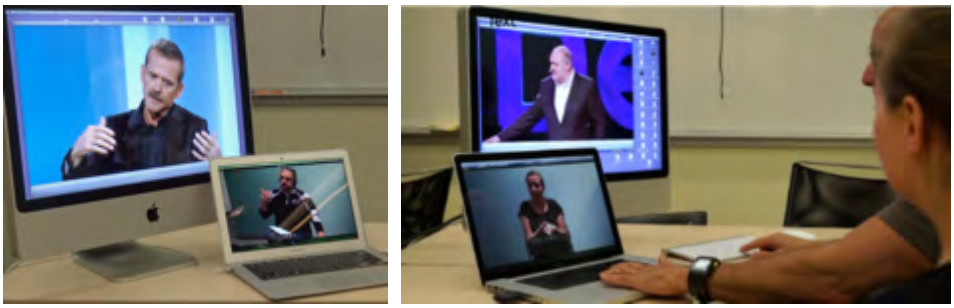


Figure 1. The SR setup: viewing the source text and simultaneous interpretation together

The participants were told only that we were collecting examples of simultaneous interpreting, thus were unaware that our focus was on their visualization strategies along with the source speakers' and participants' gestures during the simultaneous interpreting task.

[3] While data on the signed language interpreters in the study are not included here, the question of distinguishing what is "gestural" and what is "linguistic" has been a topic of debate for both signed and spoken language. Some theoretical perspectives consider the production of speech sounds to be gestural, for example the work on articulatory phonology (Browman & Goldstein, 1992; Neisser, 1976). Nonetheless, details on this are beyond the scope of this paper; here we consider gestures to be body actions other than the articulation of speech itself.

[4] From an episode of *The Hour* (CBC, Canada), https://www.cbc.ca/strombo/videos/chris.hadfield-full-interview-strombo

[5] https://www.youtube.com/watch?v=BVxOb8-d7Ic

3. The alignment of conceptualization and gesture

As described above, we were interested in learning more about conceptual alignment between the source speaker and the interpreter, considering that such alignment would undoubtedly be the interpreter's goal, that is, constructing a meaning that would match the intended meaning of the speaker. Detailed analyses of the verbal interpretations regarding equivalence are left for future discussion; here our focus is on what the interpreters' gestures reveal about their conceptualizations of the ideas expressed in the source texts. To this end, we look both to the gestures accompanying the actual simultaneous interpretations and what the interpreters said in the SRs about how they conceptualized the texts, and occasionally, their gestures as they talked in the SRs about their conceptualizations, which at times were equally revealing, even if after the fact.

This study is a qualitative analysis. We have not yet, at this point, examined every relevant gesture in the videos, but report on specific examples that reveal aspects of conceptualization beyond the words the interpreters use either in their simultaneous interpretations or their SRs. In undertaking this study, we examined the video data with respect to both conceptual and gestural alignment along the following possible combinations:

i) conceptual alignment + gestural alignment
ii) conceptual non-alignment + gestural non-alignment
iii) conceptual alignment + gestural non-alignment
iv) conceptual non-alignment + gestural alignment

In what follows, we see clear examples of the first two possibilities, but found minimal evidence, at least in spoken language target texts, of the third and fourth possibilities (although we did find one example that seemed to qualify as exemplifying them in the signed language target text data; see section 3.3 below).

3.1. Conceptual alignment and gestural alignment

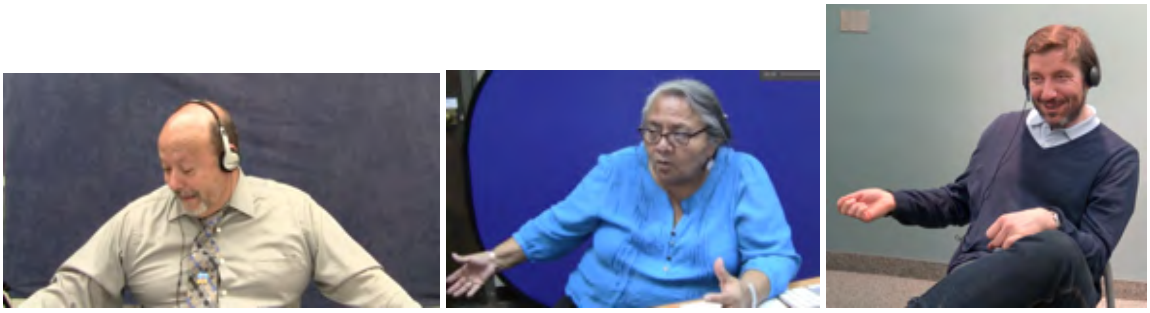
We found many instances where the interpreter's gesture(s) demonstrated alignment with the source speaker, indicating alignment in their conceptualization of the text. This is significant because in at least some cases, the speaker's gesture represented semantic or pragmatic information that was not part of the spoken text. In Example 1, the speaker, Dara O'Briain, asks what it would be like if some Renaissance figures suddenly appeared in our time, asking us to explain how common household things work, for example, electric appliances. O'Briain suggests that we don't really know how they work, or more exactly, how *electricity* works—you just plug them into the wall. The choice of direction of his pointing gesture to a low, distal rightward space, is significant. Janzen et al. (2023) show that in many discourse events, the gesture spaces that both speaker/gesturers and signed language users choose exemplify the conceptual metaphor CONCEPTUAL DISTANCE IS SPATIAL DISTANCE. Janzen et al. show that things that are known or knowable, including gestural references to past events and spaces, are referenced gesturally in a frontal proximal space that is within view of the speaker or signer, and maximally viewable to a face-to-face addressee. Gestural references to things not known or unknowable, including future events, things "out of mind", of an irrealis nature, even hypotheticals, occupy more distal gesture spaces, frequently out of range of a forward-facing visual viewpoint. In O'Briain's case, the unknowability of how electricity works is profiled by a wall positioned well away from an accessible frontal proximal space (Figure 2), and as shown in (2b), even staring at it will not help. Nothing about gesture space generally would prevent O'Briain from positioning the imaginary wall and socket directly in front of him. But while he does not mention why the wall is mentally positioned off to the side out of view, the effect it has for the viewer is clear conceptual alignment – they don't know how it works any

better than he does; even his gesture of looking at the space without saying anything (without accompanying speech) now garners audience laughter.

Example 1: The wall

(a) pointing (b) looking at

Figure 2. The source speaker (English) pointing to a low space to the far right in (a); subsequently turning to look at that space in (b)



(a) Spanish (b) Navajo (c) Ukrainian

Figure 3. Interpreters' gestures toward the rightward space: eye gaze in (a), and right-hand gestures in (b) and (c)

The gestures of some of our participants show close alignment with O'Briain's gestures as they interpreted these segments of the text (Figure 3). The Navajo interpreter demonstrated this alignment in the SR (3b), even though she had not made this gesture during the actual interpretation. None, however, reported consciously copying the speaker's gestures to this rightward distal space, and in the SR, some were quite surprised that they had even done so. Most interpreters simulated the event with the imaginary wall positioned in the same orientation, and continued to repeat this gestural orientation in the SR, highlighting its saliency for them. This suggests they understood the metaphoric sense of the speaker's gestures, which impacted their conceptualization of the overall sense conveyed by the speaker, that of an unknown mechanism (how electricity works), and as a result prompting their own gestures, as a reflection of the unknowable state. It should not go unnoticed the grins on the faces of the interpreters in Figure 3a and 3c, which suggest that rather than a fully enacted bewildered stance of the source speaker, they align with the audience reaction of hilarity, thus suggesting a body-partitioned (Dudis, 2004) portrayal of the event. On one level, the interpreter reflects and represents O'Briain's plea to ignorance of how things work, but this is overlayed with a representation of the staged performance and audience participation. Therefore careful examination of the interpreter's "performance" reveals a secondary, intersubjective reflection of audience response, simultaneously. This appears to be an example of what Dancygier (2012) refers to as stance-stacking.

In Example 2 Hadfield is talking about his experiences in space, including the perspective he gained of being able to see the planet Earth from space, so distant that he could "cover up the world with your thumb" as he says. Figure 4 shows his co-speech gesture in an enactment of raising one's thumb in the direction of the planet and looking directly at it, so as to imply that the planet is so far away, so small, as to be completely covered by the thumb. Hadfield's gesture here is a co-speech gesture, so that unlike Example 1 (and Example 3 below), the gesture meaning coincides with what is said, and is therefore not adding any meaning distinct from what is said.

As in the other examples, during the SRs the interpreters did not suggest that they were prompted to gesture in like manner because Hadfield had done so himself, and at best, some were only vaguely aware that he had made this gesture. Nonetheless, their gesturing at this point is striking. All 14 interpreters in the study gestured with their thumb in this way as they produced the target utterance. Thus, it is one of the clearest examples of gestural alignment. Conceptual alignment is evident as well, but it is interesting to consider, because none of the interpreters has had a similar experience to that of Hadfield's. However, by analogy, a common and relatable experience is one of covering the moon with your thumb, or covering any smaller, closer object with your thumb, and so being able to conceptualize such an enactment is not by any means a stretch for these interpreters, and the fact that all reproduced the gesture suggests that something particularly salient stood out for them. Of particular interest is the interpreter's physical stance in Figure 5(c). His eyes were closed during long segments of his interpretation, nonetheless, his body and head positioning clearly suggest a visual conceptualization of the act, illustrating our claim that the interpreters were not just seeing what Hadfield was doing and copying it.

Example 2: Covering the earth with your thumb

Figure 4. Hadfield gesturing while saying "being able to cover up the world with your thumb"

(a) Ukrainian (b) Spanish (c) French

Figure 5. Interpreters gesturing while giving the equivalent target text

Example 3 is more complex, both cognitively and gesturally. Here, the gestures represent abstract ideas with the gesture spaces signifying a discourse-level, cognitively-organizational act of comparison. Prior to this, Hadfield's interviewer focused on his work as an astronaut,

but at this point in the interview, he turns to ask about Hadfield's home and family life. Hadfield, who is righthanded, says, "these are my objectives at work (while gesturing to a contralateral leftward space), and these are my objectives at home (while gesturing to an ipsilateral rightward space)". The two sets of objectives, then, are referred to deictically with the demonstrative "these" but without specifying exactly what they are, differentiated by assigning them two distinct gestural spaces, as in Figure 6.[6]

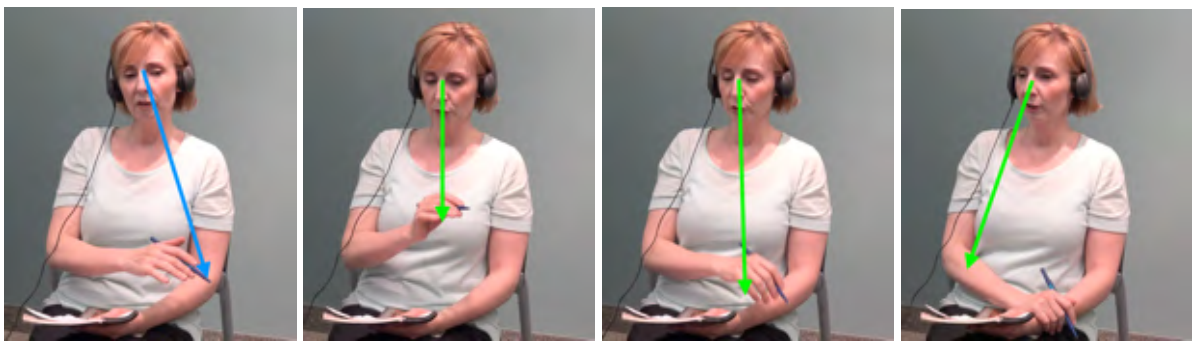
Many interpreters in the study gestured in a remarkably similar manner. The interpreter in Figure 7 shows the same gesture space differentiation, strengthened by her differentiated eye-gaze to the two locations. Figure 7(b-c) shows her arm lowering to the second space, continuing on to rest on her left wrist positioned (conveniently, perhaps) on that vertical plane (Figure 7d). In (7d) her eye-gaze has moved farther rightward, we assume because she is cognitively moving on to the next text item.

This gestural alignment is an index of conceptual alignment, but here, it is not alignment in terms of the content of the source text, but regarding the cognitive organization of ideas within a comparative frame. In the SRs, none of the interpreters suggested that they were aware of Hadfield's gestures to the two spaces and, when pointed out, none could articulate why they thought he might have done so. Even more interesting is that the participants who gestured in a similar way were surprised to see this in the recording. While we cannot rule out the possibility of unconscious mimicking (Chartrand & Bargh, 1999; Kimbara, 2006), it seems more likely that this metaphoric use of space to correspond with a conceptualized comparative frame is part of human cognitive architecture, as noted by others (e.g., Hinnell & Rice, 2016) and which has been considered as part of the "spatial grammar" of ASL (Winston, 1995).

Example 3: Comparing work and family at home

(a) work gesture space (b) family gesture space

Figure 6. Hadfield's differentiated gesture spaces for work (a), and home (b)



(a) (b) (c) (d)

Figure 7. A French interpreter's differentiation of gesture spaces for work in (a), and home in (b – d)

[6] Although Hadfield's hand dropped below the bottom of the video image, these stills show the beginning of his hand/arm movements, which clearly indicate the two distinct gesture spaces.

3.2. Conceptual non-alignment and gestural non-alignment

Just as gestural alignment can be a window into conceptual alignment as seen above, gestural *non*-alignment can signal conceptual non-alignment. Further, it appeared that at times this is unintentional, with the interpreter perhaps being unaware of it. On the other hand, there were instances where non-alignment was intentional. Examples of each are discussed below.

3.2.1. Unintentional conceptual non-alignment and gestural non-alignment

We found instances where the interpreter's gesture did not match the source speaker's, prompting our comparison of the source and target texts. Several things are apparent here. First, the interpreter may have misheard, or misunderstood what the speaker said, or could not come up with an equivalent in the target language. In Example 4, whereas the speaker says "they're little um, like, saloon doors", the Ukrainian interpretation is "Це як двері в салоні" ('it's like a cabin door'), and the gestures of closing the door(s) are different in both spatial orientation and pulling a single door shut instead of double saloon doors (Figure 8). We analyze instances like this as unintentional, as there is no reason to think that the interpreter is determining to say something other than what the speaker intends. In the SR this interpreter did not discuss his lexical choice of words ('cabin' instead of 'saloon'), but did describe his visualization of the sleep pod, noting that he was "in the zone", feeling comfortable in his interpretation. "Here, I am him," he commented. Alan Cienki (personal communication) suggests that двері is a "plurale tantum" in Ukrainian (as is 'scissors' in English), but it could translate into English as either 'door' or 'doors'. Throughout his interpretation of Hadfield, this interpreter frequently gestured with both hands, so his one-handed gesture here leads us to believe that it has been conceptualized as a single door.

Example 4: The saloon doors

Source text: "uh, pull the little doors closed, like 'thunk thunk', because they're little um, like, saloon doors, on your sleep pod, …"

Ukrainian target text: Можна закрити ... можна закрити двері. Це як двері в салоні. І це там де ти спиш. 'You can close ... you can close the door. It's like a cabin door. And this is where you sleep.' (transcription and English translation: Olena Gordiyenko)

(a) (b)

Figure 8. Hadfield's gesture of closing the "saloon" doors in (a); the interpreter closing a "cabin" door in (b)

3.2.2. Intentional conceptual non-alignment and gestural non-alignment

Conversely, we found several instances where neither a non-aligned gesture nor conceptual non-alignment were apparent in the interpretation but were revealed in the SR. The interpreters at times stated that they believed they were thinking quite differently from the source speaker, and it was here that the gestures were produced, and where the occurrence of intentional conceptual non-alignment came to light.

In Example 5, the Navajo interpreter gestured very little during the interpretation but much more so during the SR. In O'Briain's comedy sketch text he makes the claim to his imaginary Renaissance visitors that an advantage of modern technology is the ability to make two-sided toast without having to flip the bread. He gestures putting the bread in a top-slotted toaster and pushing down the lever (Figure 9a), dropping the bread down between the two heating elements. In the Navajo interpreter's SR, she explained that in her community and culture, her target audience would not understand if she tried to follow the source text because they would not have experience with such a toaster. Instead, she adopts a target audience perspective to make the target text maximally accessible, visualizing and describing making toast in a wire basket over an open fire (Figure 9b). In doing this, she sacrificed the joke but raised the level of meaning in the target text.[7]

Example 5: Two toasters

(a) (b)

Figure 9. O'Briain gesturing making two-sided toast in (a); Navajo interpreter gesturing making toast over an open fire in (b)

Another case of intentional conceptual non-alignment with an accompanying non-aligning gesture occurring in the SR discussion is Example 6. In this case, O'Briain was explaining to the Renaissance fellows how a toilet works.

Example 6: Understanding how a toilet works

(a) (b)

Figure 10. Gesturing about using a modern toilet in (a); gesturing about flushing a "historical" pull-chain toilet in (b)

[7] Numerous researchers have discussed the interpreter's fidelity to the source or target. Nida (1964), for example uses the terms "formal equivalence" versus "dynamic equivalence". See also Gile (1995) on primary information (the content) and secondary information (background information, speaker style, etc.).

While this Spanish interpreter did not gesture pulling on a chain to flush a toilet during the interpretation, in the SR he was very clear about how he was conceptualizing the toilet in relation to the Renaissance visitors. O'Briain's point was that the visitors would not have been able to relate to a modern toilet whatsoever, and would be amazed at its efficiency in flushing away waste. He says, "You gather your robes around you. You sit down, you evacuate your waste into it, then you press a button and it's all taken away."

In the SR, however, the interpreter states the following:

> That was part of the imagery that I just described about pulling the string [here he gestures pulling the chain as in Figure 10(b)], that would be more understanding from those guys back at that time, they'd probably understand that a lot better. And so I stuck that in there to help me bridge the eras. And so, you know, that's how I figured that out, and I, I just went, I just went with it. And actually, my mind did it all by itself…. Actually, I just went with the words that he was speaking. Actually, I went straight to it, but *the image was different*. My image of it was different because I had to bridge the gap between the two eras.

The intentional non-alignment here lies in the interpreter's decision that, for whatever reason, he thought he needed to make the source text more relatable to the imaginary visitors. So, rather than adopting the image of a modern toilet that O'Briain was creating, he conceptualized a more historic version. As he states in the SR, this did not affect what he said in his interpretation – it was pointedly to assist him in working out how to fit the pieces of the text together. We thus see this as an example of a non-aligned conceptualization fully explicated by the pull-chain gesture in the SR.

However, there is an unintentional element to the non-alignment of conceptualization between the source speaker and interpreter here too; the raised tank, pull-chain toilet was invented in the 1880s, so the Renaissance folk would not know it. While we appreciate that the interpreter was consciously working through source-to-target comprehension, his conceptualization of the toilet does not in fact help the addressee—only him. In this case, we see a complex example of intentional conceptual non-alignment supported by gestural non-alignment in the SR, but with an added element of unintentional non-alignment in the conceptualization process of how to link the source text to a potential target audience.

3.3. Conceptual alignment and gestural non-alignment; conceptual non-alignment and gestural alignment

The category of conceptual alignment plus gestural non-alignment might seem illogical, because how would an interpreter align with a source speaker's conceptualization of some entity or event, and yet produce gestures that do not align with the gestures of the source speaker? Several factors suggest that this might be possible at least to some extent. First, what exactly does conceptualization entail? In the discussion above, we considered conceptualizing somewhat broadly, and while space here does not permit detailed discussion, we subscribe to the idea of conceptualization as dynamic (Langacker, 2008) and potentially complex, as the example below illustrates. There is reason to think that conceptual alignment may be partial. Second, and very much related, interpreters are trained to take on the perspective of the source speaker, to see things as they do, as exemplified in section 3.2.1 above where, in the SR, the interpreter commented "Here, I am him". However, Leeson et al. (2017a, 2017b) show that at most, interpreters have a blended viewpoint that may include some aspects of what they believe is the speaker's subjective viewpoint along with aspects clearly stemming from their own subjective view. This is illustrated in Example 7, when O'Briain talks about a fridge being a

modern appliance that would marvel his Renaissance visitors. In one Spanish interpreter's SR, the following exchange took place.

Example 7: It was *my* fridge

Researcher: We're talking about a thing – a fridge – so, what did you see?

Interpreter: I saw a fridge! (laughs)

R: Yours or not?

I: Yes! For some reason, actually … to be exact, I saw *my freezer* in my mind, which is a standup freezer.

Figure 11. O'Briain's non-specific gesture as he mentions the fridge

(a) (b)

Figure 12. The interpreter's similar one-handed gesture in the SR when she says that she saw (i.e., visualized) a fridge, in (a); a second gesture when she says "a standup freezer" in (b)

Here, when O'Briain mentions a fridge, he does not elaborate on its physical characteristics but rather begins talking about its function of keeping food cold. But he makes the gesture seen in Figure 11, which references a large thing, in a location proximal to him. We do not get to know what, if anything, he visualizes here, but after viewing the video and being asked what the interpreter saw, she says emphatically and without hesitation, "I saw a fridge", and gestures, although with just one hand (Fig. 12a), similar to O'Briain's 'thing' gesture. When asked if it was *her* fridge, she says "yes" and elaborates that she had visualized her own standup freezer. So, in this instance, there is no functional differentiation between O'Briain's and the interpreter's gesture (the fact that her version of the gesture is one-handed is immaterial), and yet what she had visualized (i.e., conceptualized) could not possibly have been what O'Briain had, and vice versa.

On one level, then, we might say that there was indeed conceptual alignment: they both conceptualized a fridge. But in fact, the interpreter's actual conceptualization was of something entirely subjective, based on salient, experiential interaction with a specific appliance, seen

via a now differentiated gesture of grasping the handle of her tall, standup freezer, shown in Figure 12(b). Thus, we suggest that this example at least in part demonstrates conceptual non-alignment, but that this non-alignment is not at first noticeable because of the similarity of the source speaker's and the interpreter's initial gestures that referred in a non-specific way to a large object. Further analysis may reveal additional examples of these two alignment categories for the spoken language participants in the study, but this is left for future examination. At least one potential example comes from one participant working from English to ASL that had to do with the wall in O'Briain's sketch. Much like O'Briain, this interpreter gestured plugging appliances into the wall, although they oriented these gestures as if the wall was directly in front of them rather than off to the side. These gestures, then, may be considered as aligned (although note Sweetser [2023] on the significance of gesture spaces), even though the conceptualization of the event is non-aligned at the abstract discourse level, where the distally positioned wall represents something unknowable and the interpreter's frontal proximal position does not reflect this (see Example 1).

4. Discussion

There are two aspects of gesture relating to the task of simultaneous interpreting. First, it is of interest whether the interpreter pays attention to the source speaker's gestures and, second, whether the speaker's gestures contribute to the interpreter's construction of speaker meaning. It has been demonstrated in both conversational and experimental data that listeners extract information from speakers' gestures not found in the speech itself (see Cooperrider & Goldin-Meadow, 2017; Hostetter, 2011; Kendon, 2004). The SRs indicate that the interpreters were not usually consciously aware of the source speakers' gestures, e.g. regarding differentiated comparative frame spaces (Example 3). One could argue that in this example the interpreter's gestures matched those of the speaker not because she took her cue from what the speaker gestured, but because gesturing toward two distinct spaces to differentiate items being compared is rather common in terms of human cognition and cognitive organization. Note the spoken construction in English that reflects this: "on one hand … and on the other …". It may not have mattered whether the speaker gestured at all in this instance because the schema of contrasting ideas occupying different gesture spaces metaphorically is available across the community of speakers. But even for an interpreter-as-speaker, these study participants' own use of such a gesture sequence appears not to be a conscious event. Example 2 (covering the world with your thumb) may be a similar example, although not in the sense of cognitive organization, but as a common experiential event like covering the moon with your thumb. Therefore, it is an accessible and meaningful action whether or not the interpreter is aware that the speaker has made this gesture (in Figure 5c the interpreter's eyes are closed during this segment; he would not have seen Hadfield make the gesture). However, Example 1 (the wall) is of a different sort, because the rightward gesture is not a general way of referring to walls. In this specific instance positioning the wall gesturally at a far-right distal location outside the normal field of vision goes well beyond a simple referential gesture to a concrete object, and rather is about the more abstract unknowability of how complex modern systems work—this is O'Briain's entire theme in his stand-up routine. In this case, whether they were aware of it or not, some of the interpreters understood this abstract meaning and the significance of the gesture, simulating the same perspectivized relationship with the wall from their own physical point of view. In doing this, they truly were enacting the subjective stance of the speaker.

This study examines how the interpreter's own gestures align with those of the source speaker as a window on conceptual alignment, and we clearly see this taking place, as in Examples 1-3. In other cases, however, this alignment breaks down (Example 4). At times, such misalignment

is not evident during the interpretation itself because revealing gestures do not appear there. However, there is an advantage to the SR exercise as a research tool in showing how the interpreter, in the SR, conceptualized various elements of the text through their gestures, as in Examples 5 (the toaster) and 6 (the toilet), whether or not this affected how they interpreted the segment into the target text. In addition to gaining information on how the study participants conceptualized aspects of the source texts, especially through visualization (see Stachowiak-Szymczak, 2019), the SR exercise gave the participants an opportunity to reflect on their work. This turned out to be an unexpected benefit for them, in that for the most part, in their day-to-day work of interpreting, the majority had not thought much of their source speakers' gestures (nor their own, for that matter). In the SR, most participants commented that paying attention to the speakers' gestures would have helped them make sense of the texts.

In the SRs, the interpreters were often surprised when they watched both the video-recorded source texts along with their interpretation of them simultaneously. Numerous times the interpreters' gestures mimicked those of the source speaker without them realizing they were doing this (see Kimbara, 2006). Interactional alignment (Feyaerts et al., 2017) involves copying behaviors in which verbal and gestural contributions by one speaker are re-used by another speaker, which results from "interactive grounding" (Feyaerts et al., 2017, p. 140), and is a factor that drives linguistic choices. During the SR one study participant commented upon seeing his gestural alignment with the source speaker's that "I guess I'm starting to mimic him, which might be a way to get into his head". This may suggest that gestural alignment can lead to conceptual alignment, not just be a reflection of it.

5. Conclusion

In discussing the role that a gesture can play in contributing meaning to a spoken utterance, Feyaerts (2023) gives the example of a Belgian politician commenting to the parliamentary assembly. She says, "This information was shared…", using a passive construction. Feyaerts' focus is on a co-speech gesture and features of the construction itself, rather than an interpretation of it. What an interpreter would have missed had they not been watching the speaker was that she gestured referentially both to herself and toward some parliamentary members, adding the very specific information that the sharing took place between particular individuals, thus disambiguating what was not specified in her spoken utterance. This example illustrates the multimodal nature of discourse that interpreters encounter and participate in. The present examination and the examples presented above explore the roles that co-speech gestures play in source speakers' discourse, the alignment of interpreters' gestures, and how these relate to conceptual alignment between the interpreter and speaker (see Kita et al.'s, 2017, gesture-for-conceptualization hypothesis, which outlines how gestures may activate, manipulate, package, and explore spatio-motoric information; Kita et al. suggest that many representational gestures are self-oriented, but can also be communicative). Stimulated Recalls (SRs) augmented the video-recorded interpretations of two source texts by fourteen study participants. While the study as a whole included both spoken and signed language interpreters, this paper reports only on data from the spoken-to-spoken language interpreters, whose working languages were English and French, Spanish, Ukrainian, or Navajo.

Facets of the interpreters' visualizations were evident in structural choices in the target texts (for example, 'cabin' in Example 4), often quite clearly in their gestures and gesture spaces during their interpretations, and in their descriptions of what they were visualizing or conceptualizing in the SRs. Comparing the source speakers' and interpreters' gestures revealed numerous instances of conceptual alignment (or non-alignment) by allowing us to see examples of adopting a speaker's viewpoint when doing so is otherwise an invisible mental

state. But it is also evident through many of these examples that the interpreters leveraged the affordances of their own subjective experiences in visualizing and conceptualizing speaker meaning. Most often, this emerged as a blended viewpoint. In "adopting" a speaker's viewpoint, the interpreter draws on their own belief as to what that (mental) viewpointed conceptualization is, without having direct access to it. This is then coupled with their own inescapable subjective conceptualization. Understanding that the interpreter's constructed comprehension of the source text necessarily results in a blended viewpoint is significant because it is a more realistic perspective of what source text comprehension is like, and how it might inform the intersubjective construction of the target text, with the target audience in mind.

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